

REMARKS

Applicants have amended claim 1 and canceled claims 8 and 9. Claims 2-7 and 10 were previously presented. Claims 11-25 are withdrawn. Thus, claims 1-7 and 10 are presented for further examination. Favorable reconsideration is respectfully requested.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (JP 2003-59758); claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Rohr et al. (US 4,412,904); claims 2-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Omatsu (US 5,196,757); claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Omatsu (US 5,196,757). As shown above, Applicants have amended independent claim 1 to recite the ceramic layers comprise a ferroelectric perovskite ceramic of a PZT type $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$, and wherein $1 \geq x \geq 0$. In view of these amendments, withdrawal of the art rejections is respectfully requested.

As the Office Action has already correctly acknowledged on page 4, Nakamura et al. does not disclose any ferroelectric material. Thus, Nakamura et al. does not disclose all of the features of claim 1, as amended. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 1 as being anticipated by Nakamura et al.

On page 4 the Office Action suggests that former claim 9, the elements of which are now incorporated into claim 1, is unpatentable over Nakamura et al. in view of Omatsu. Nakamura et al. appears to disclose a "manufacturing method for a multilayer ceramic capacitor, which prevents the oxidation of an electrode layer at baking by applying a Cu external electrode on the

mulilayer ceramic capacitor where the internal electrode is Ni and the dielectric ceramic is barium titanate.” (Nakamura, Abstract). This capacitor utilizes BaTiO₃ as a dielectric ceramic material. (Nakamura, [0022]).

The Office Action (page 4) adds Omatsu for allegedly teaching “use of ceramic layers that comprise a ferroelectric perovskite ... of a PZT type $PB(Zr_xTi_{1-x})O_3$,” and suggests that “it would have been obvious to employ the ceramic [of Omatsu] ... in the contact and in the first and second internal electrodes of Nakamura et al. ...” Applicants respectfully disagree. There is nothing to suggest that merely substituting the ceramic material disclosed by Omatsu for the ceramic material utilized in Nakamura’s manufacturing method would lead to a useable piezoelectric ceramic actuator. Furthermore, according to German counsel, given the different oxidation-reduction potentials of Ba/BaO and Pb/PbO (with the reduction-pair Pb/PbO being more sensitive related to the oxygen partial pressure), merely substituting Omatsu’s ceramic for the BaTiO₃ used in Nakamura’s manufacturing method, would not likely produce a piezoelectric ceramic device wherein the contacts are not oxidized and the ceramic layers are not reduced. Accordingly, Applicants submit that it would not have been obvious to modify the teachings of Nakamura in the manner suggested.

The remaining art has not been cited for, nor does it show, a multilayer ceramic component that includes “a stack comprising ceramic layers and electrode layers interspersed among the ceramic layers, ... wherein in areas adjacent to boundaries between the first and second external contacts and the ceramic layers, the first and second external contacts are not oxidized and material comprising the ceramic layers is not reduced; ... and wherein the ceramic

layers comprise a ferroelectric perovskite ceramic of a PZT type $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$, and wherein $1 \geq x \geq 0$." Accordingly, claim 1 is believed to be patentable.

Each of the dependent claims is believed to define patentable features of the invention. Each dependent claim partakes of the novelty of its corresponding independent claim, in light of the foregoing amendments, and, as such, has not been discussed specifically herein.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

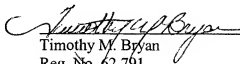
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Please charge any additional fees, not already covered by check, or credit any
overpayment, to deposit account 06 1050, referencing Attorney Docket No. 14219-0117US1.

Respectfully submitted,

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